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23 June 1969

MEMORANDUM FOR THE RECORD

SUBJECT : Development of a Filer Eye Piece for the [] Zoom 240
MicrostereoscopeREFERENCE: 1. DED Memorandum dated 12 June 1969 - Suggestions Awards Evaluation
2. IEG Memorandum 183-69, 10 June 1969

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1. On 10 June 1969 the Development and Engineering Division received a request to evaluate a beneficial suggestion concerning the development of special adapter collars so that the [] 15 X Filer Eye Pieces could be adapted to fit the [] Zoom 240 Zoom 70 and the Versatile Microstereoscopes. The subject suggestion was thoroughly reviewed and, with some regret, a recommendation to decline the suggestion was forwarded to the Chairman, Suggestion Award Panel. The rationale behind this decision is included in the reference (copy attached) and need not be reiterated here.

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2. Immediately following DED's action, a memorandum was received from IEG, Reference 2, stating a request for the development of a Filer Eye Piece for a [] Zoom 240 Microstereoscope. In order to resolve this situation, I set up a meeting on 16 June 1969 with [] of IEG.

3. At this meeting I reviewed, for [] the rationale as to why we did not feel that this was a sound request from a technical standpoint, pointing out the inherent problems--particularly in the monoscopic mode of operation. At the same time, I informed them that this would not be true for the stereoscopic mode; i.e., with rhomboids on. However, IEG was insistent that they needed the device and that their primary intent was to use it with the Model 2 Rhomboids which would, of course, also solve the problem of monoscopic operation because of their unique binocular monoscopic mode of operation. I reiterated our areas of concern:

- (a) That we would probably have to redesign the Filer Eye Piece especially for the 240 in order to match its optical characteristics with that of the Model 2 Rhomboid package.
- (b) That the Zoom 240 has converging eye pieces which imply that we may have to introduce a special optical band in the Filer Eye Piece and Companion Eye Piece in order to maintain proper interpupillary distance adjustment, in much the same manner required for the anamorphic eye pieces.

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(c) I once again reviewed the philosophy of measurements-- problems involved in measuring when there is a zoom element in the system. However, [] claims that the instruments will be used only for comparison measurements. This is, of course, a logical and valid use of the instrument and obviates many of the inherent problems of calibration and scaling. However, it is extremely difficult to control how people use a device once it is available.

4. Faced with IEG's adamant position, I took the following action. I agreed that DED would review the optical problems inherent in the development of this device and that, if the device did indeed prove feasible, we would undertake to develop it for FY-70. The rationale for this decision is that (1) the method of utilization of this equipment and the problems involved are essentially IEG's responsibility, (2) if our investigations prove that the device is optically feasible and not prohibitively expensive, it could be funded from money already allocated to the Imagery Interpretation Instruments and Techniques category listed under Component Development where it would be substituted for some lower priority item, and (3) this is a request from an operational component and involves a piece of equipment that they feel would be immediately useful, and, therefore, their desires in this matter should be given considerable weight.

5. I still feel that this is not a particularly desirable approach to the problem and would much prefer to see us incorporate a measuring capability into the Rhomboid package itself at a later date, since the measuring element could be introduced below the Zoom element instead of above it. However, that solution is considerably further away than the development of a Filer Eye Piece, since we are still working on the prototype of the Model 2 Rhomboid package.

6. Should we undertake this development and should it prove feasible, I would then write a memorandum to the Chairman of the Suggestions Awards Committee requesting that he reopen the question of a suggestion award covering this device.

[]
Deputy Chief
Development & Engineering Division

Attachments:
1. DED Memorandum dated 12 June 1969 - Suggestions Awards Evaluation

Distribution:
Original - File [] w/att.

1 - Chrono
1 - IEG w/att.

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